



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/767,803

01/29/2004

Robert I. Paterson

04-027

5564

20306

7590

04/25/2008

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER

WENDELL, MARK R

ART UNIT

PAPER NUMBER

3635

MAIL DATE

DELIVERY MODE

04/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/767,803	Applicant(s) PATERSON ET AL.	
	Examiner MARK R. WENDELL	Art Unit 3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20071105, 20071129</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the second reinforcement wire threaded through a second hole from the other direction with an overlap of 150mm of claims 11 and 12 must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 16-19, 21-23, 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Korean Patent 20-0201182, referred to as Korean hereafter.

Regarding claims 1 and 28, Korean illustrates in Figures 1-5 a method of reinforcing a veneer wall by tying it to a back- up wall, comprising:

- Installing a fastener (1) into the back-up wall (9 or 11), the fastener having a threaded portion (5 or 6) which extends substantially at right angles from the surface of the back-up wall to provide a thread for engagement with a connector (3);
- Fitting the connector (3) onto the threaded portion of the fastener, the connector engaging with the thread such that removal of the connector is prevented without rotation of the connector, the connector further having a portion (4, 4', 7) for receiving a reinforcement wire;
- Fitting the reinforcement wire (12) into said receiving portion of the connector (3), the reinforcement wire extending substantially at right angles to the fastener and preventing rotation of the connector with respect to the fastener; and

Art Unit: 3635

- Integrating the reinforcement wire (12) with the veneer wall (10) by securing the reinforcement wire within a mortar bed joint of the veneer wall (see Figure 1).

The examiner notes that the broadest interpretation of the definition of "onto" would simply mean fasten.

Regarding claim 2, Korean discloses and illustrates in Figures 2 and 3 the fastener (1) made of metal and the wall tie (3) having a helical shape (threaded portion) made of twisted profiled wire. The examiner notes that a threaded end constitutes a helical shape since the definition of helical is, in its broadest sense, spirally coiled.

Regarding claims 16 and 17, Korean illustrates in Figure 1 the connector (3) and reinforcement wire (12) within a mortar bed joint at a junction of a pair of bricks (bricks above and below).

Regarding claim 18, the examiner notes that when repairing the reinforcement structure (wire, fasteners, connectors) of a veneer wall, it is notoriously well-known to remove the mortar from the bed joints, especially in the case of leaks or staining.

Regarding claim 19, Korean illustrates in Figures 2 and 3 a connector (1) and a wall tie (3) comprising:

Art Unit: 3635

- A tube of internal diameter closely fitting the external diameter of the helical fins of the wall ties (3);
- At least one region of narrowed internal diameter (2 and 5);
- A hole (the hole in 7) passing through the opposite sides of the tube wall at right angles to the longitudinal axis of the tube.

Regarding claim 21, Korean illustrates many crimps on the connector. A crimp, by definition, is a bend or wave within an object. Items 5, 6, and 7 are all objects with crimps.

Regarding claim 22, Korean illustrates in Figure 2 the narrowed diameter sections (2 and 5) reducing the internal surfaces by at least 1mm.

Regarding claim 23, Korean illustrates in Figure 2 two regions of narrowed internal diameter (2 and 5). The examiner notes that item 5 is an area of very narrow diameter that splits and grows to a larger diameter as item 3 is inserted.

Regarding claim 29, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitation (Ex parte Masham, 2 USPQ 2d 1647 1987). However, the invention of Korean is capable of being used to repair an existing building.

Art Unit: 3635

Regarding claim 30, Korean illustrates in Figure 1 the system including a channel for the reinforcement wire (12) in the bed joint of the veneer wall (10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-7, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korean Patent 20-0201182, referred to as Korean hereafter. It is described above what is disclosed by Korean, however regarding claims 3 and 35 the reference does not distinctly teach driving the fastener into the masonry wall via a percussion tool. It is well known in the art of building construction to use a hammer, which constitutes a percussion tool, to drive fasteners into a wall (for example, nails, screws, mollies, etc.). Many times a guide-hole will be tapped prior to the primary strike of the hammer.

Regarding claim 4, Korean illustrates in Figure 1 the fastener (1) extending at a right angle to the plane of the backup wall.

Art Unit: 3635

Regarding claims 5 and 6, Korean illustrates the connector (3) screwing into the fasteners (1) sleeve (2). It would have been obvious to one having ordinary skill in the art at the time of invention was made to include the connector having the sleeve and the fastener fit into the sleeve, since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art (In re Einstein, 8 USPQ 167).

Regarding claim 7, Korean illustrates in Figure 1, the reinforcement wire (12) positioned close from the external surface of the veneer wall (10). Korean discloses the invention except for the reinforcement wire positioned 25-50mm from the external surface of the wall. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a reinforcement wire positioned between 25 and 50 mm from the external surface of the veneer wall, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (In re Aller, 105 USPQ 233).

Claims 8-15, 20, 24-27, 31-34, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korean Patent 20-0201182 in view of Hohmann (US 4875319). It is described above what is disclosed by Korean, however regarding claims 8, 20 and 36 the reference does not teach the reinforcement wire fitted through a hole in the receiving portion of the connector. Hohmann illustrates in Figures 1 and 2 a reinforcement wire threaded through a hole in the receiving

Art Unit: 3635

portion (18) of the connector (16). The examiner notes that it would not destroy the invention of Korean to include items 16 and 18, the receiving portion and connector, to the end of connector member (7) of Korean. The examiner further notes that the definition of threading in Merriam Webster dictionary is "to pass through or into." The reinforcement wire in Hohmann does indeed pass through and into the hole created by item 18. It would have been obvious to one having ordinary skill in the art at the time of invention to modify the connector of Korean with the connector of Hohmann in order to accommodate multiple reinforcement wires or odd shaped connectors.

Regarding claims 9 and 31, the combination of Korean (Figure 1) and Hohmann accommodates a plurality of connectors fastened to a wall with the reinforcing wires threaded through a hole in each to link the connectors together.

Regarding claims 10-12, 32-33, although not shown, Hohmann illustrates in Figure 1 a connector (18) provided with additional receiving portions for additional reinforcement wires.

Regarding claim 13, it would have been obvious matter of design choice to modify Korean in view of Hohmann by having the reinforcement wire a twisted profile wire, since applicant has not disclosed that having the wire be a twisted profiled wire solves any stated problem or produces any unexpected results and

Art Unit: 3635

it appears that the structure would perform equally as well with the wire being smooth.

Regarding claims 14-15 and 34, the references do not distinctly illustrates in the reinforcement wire extending the length of the wall and around a building.

However, the broken lines at the end of the reinforcement wires in each reference lend credence to the fact that they extend to any desired length. It is well known in the masonry wall art to have the reinforcement wire extend the length of the wall even if the length of the wall is the entire length of the building.

Regarding claims 24-26, Korean teaches a tube with a diameter and length, and Hohmann teaches a hole for the reinforcement wire, however neither discloses the actual range of dimensions. The dimensions would obviously vary according to the size of the wall and load being supported. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have an internal diameter of between 6 and 12 mm and a total length of between 50 and 100mm for the tube and a hole for the reinforcement wire 1mm less in diameter than the diameter of the tube, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (In re Aller, 105 USPQ 233).

Regarding claim 27, the invention of Korean as modified by Hohmann has the axis of the tube and the axis of the holes fore the reinforcing wires in-line.

Art Unit: 3635

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARK R. WENDELL whose telephone number is (571)270-3245. The examiner can normally be reached on Mon-Fri, 7:30AM-5PM, Alt. Fri off, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Chilcot can be reached on (571) 272-6777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard E. Chilcot/
Supervisory Patent Examiner, Art Unit
3635

/M. R. W./
Examiner, Art Unit 3635
February 8, 2008